

## ABSTRACT OF THE DISCLOSURE

The present invention relates to a hydrogen purifying apparatus for oxidizing and removing CO in a reformed gas containing CO in addition to a main component of hydrogen gas, comprising a reaction segment having a catalyst layer for oxidizing CO, a reformed gas supplying segment for supplying the reformed gas to the reaction segment via a reformed gas supply pathway, and an oxidant gas supplying segment for supplying an oxidant gas on the path of the reformed gas supply pathway. Preferably, the apparatus further comprises means for cooling the catalyst layer at the upstream side and means for heating the catalyst layer at the downstream side.